We claim:

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A concentrated quaternary ammonium compound solution comprising:

a quaternary ammonium compound with a concentration from greater than about 10% by weight; and

at least one solubility enhancing agent.

- 2. The solution of claim 1, wherein said solubility enhancing agent is an alcohol or a polyglycol.
- 3. The solution of claim 2, wherein said solubility enhancing agent is selected from the group consisting of a monohydryic alcohol, a dihydric alcohol, a trihydric alcohol, a polyethylene glycol and a combination thereof.
- 4. The solution of claim 3, wherein said monohydric alcohol is an aliphatic alcohol, said dihydric alcohol is a glycol or a derivative thereof, and said trihydric alcohol is glycerol or a derivative thereof.
- 5. The solution of claim 4, wherein said quaternary ammonium compound ranges from greater than about 10% by weight to about 60% by weight.
- 6. The solution of claim 5, wherein said quaternary ammonium compound ranges from greater than about 10% by weight to about 50% by weight.
- 7. The solution of claim 6, wherein said quaternary ammonium compound ranges from greater than about 10% by weight to about 40% by weight.
- 8. The solution of claim 7/ wherein said quaternary ammonium compound ranges from greater than about 10% weight to about 30% weight.
- 9. The solution of claim 8, wherein said quaternary ammonium compound ranges from about 15% weight to about 25% by weight.



10. The solution of claim 5, wherein said solubility enhancing agent is present at a concentration of up to about 70% by weight.

5 max is 60%

11. The solution of claim 10, wherein said solubility enhancing agent is present at a concentration ranging from about 10% by weight to about 60% by weight.

Claim 1 red. > 10% / 11 is broader

- 12. The solution of claim 6, wherein said alcohol is present at a concentration ranging from about 10% by weight to about 60% by weight.
- 13. The solution of claim 7, wherein said alcohol is present at a concentration ranging from about 10% by weight to about 60% by weight.
- 14. The solution of claim 13, wherein said quaternary ammonium compound is present at a concentration of about 40% by weight and said alcohol is present at a concentration ranging from about 50% by weight to about 60% by weight.
- 15. The solution of claim 14, wherein said quaternary ammonium compound is present at a concentration of about 40% by weight and said alcohol is present at a concentration ranging from about 55% by weight to about 60% by weight, and wherein said solution further comprises water up to about 5% by weight.
- 16. The solution of claim 15, wherein said quaternary ammonium compound is present at a concentration of about 40% by weight, said alcohol is present at a concentration of about 57% by weight and said water is present at about 3% by weight.
 - 17. The solution of claim 14, wherein said alcohol is propylene glycol.
 - 18. The solution of claim 15, wherein said alcohol is propylene glycol.
 - 19. The solution of claim 16, wherein said alcohol is propylene glycol.

- 20. The solution of claim 5, wherein said quaternary ammonium compound is present at a concentration of about 40% by weight and said alcohol is present at a concentration of about 50% by weight.
- 21. The solution of claim 5, wherein said quaternary ammonium compound is present at a concentration of about 20% by weight and said alcohol is present at a concentration of about 50% by weight.
- 22. The solution of claim 20, wherein said alcohol is a combination of ethyl alcohol and propylene glycol.
- 23. The solution of claim 21, wherein said alcohol is a combination of ethyl alcohol and propylene glycol.
- 24. The solution of claim 5, wherein said quaternary ammonium compound is present at a concentration of about 40% by weight and said alcohol is glycerol and is present at a concentration of up to about 20% by weight.
- 25. The solution of claim 1, wherein said quaternary ammonium compound is selected from the group consisting of an alkylpyridinium salt, a tetra-alkylammonium salt, and alkylalicyclic ammonium salt.
- 26. The solution of claim 25, wherein said quaternary ammonium salt is an alkylpyridinium salt.
- 27. The solution of claim 26, wherein said alkylpyridinium salt is cetylpyridinium chloride.
- 28. The solution of claim 16, wherein said quaternary ammonium compound is selected from the group consisting of an alkylpyridinium salt, a tetra-alkylammonium salt, and alkylalicyclic ammonium salt.



- 29. The solution of claim 28, wherein said quaternary ammonium salt is an alkylpyridinium salt.
- 30. The solution of claim 29, wherein said alkylpyridinium salt is cetylpyridinium chloride.
- 31. A concentrated quaternary ammonium compound solution consisting essentially of:
- a quaternary ammonium compound with a concentration from greater than about 10% by weight; and
 - at least one solubility enhancing agent.
- 32. The solution of claim 31, wherein said quaternary ammonium compound is present at a concentration of about 40% by weight and said solubility enhancing agent is present at a concentration ranging from about 50 to about 60% by weight.
- 33. The solution of claim 32, wherein said quaternary ammonium compound is cetylpyridinium chloride and said solubility enhancing agent is propylene glycol.

34.

A quaternary ammonium compound solution consisting essentially of:

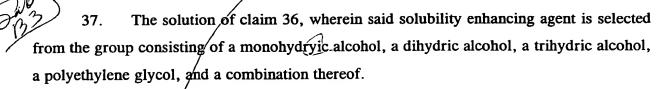
a quaternary ammonium compound with a concentration of up to about 1%

by weight;

at least one solubility enhancing agent; and

water

- 35. The solution of claim 34, wherein said quaternary ammonium compound has a concentration of about 0.01% to about 1%.
- 36. The solution of claim 35, wherein said solubility enhancing agent is an alcohol or a polyglycol.



- 38. The solution of claim 37, wherein said monohydric alcohol is an aliphatic ethanol, said dihydric alcohol is a glycol or a derivative thereof, and said trihydric alcohol is glycerol or a derivative thereof.
- 39. The solution of claim 34, wherein said solution is in sprayable or mistable form.
- A method for preventing the growth of microorganisms on a food product comprising:

contacting said food product with a microbial growth inhibiting effective amount of a quaternary ammonium compound, wherein the application time of said compound is for at least a fraction of a second to prevent the growth of microorganisms on said food product.

- 41. The method of claim 40, wherein said application time is from about 0.1 seconds to about 5 seconds.
- 42. The method of claim 41, wherein said application time is for about 1 second to about 5 seconds.
 - 43. The method of claim 40, wherein said contact is by spraying or misting.

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